

REMARKS

In the October 5, 2007 Office Action, the Examiner noted that claims 1-92 were pending in the application; rejected claims 1-14, 26-46, 58-72 and 79-86 under 35 U.S.C. § 102(e); and rejected claims 15-25, 47-57, 73-78 and 87-92 under 35 U.S.C. § 103(a). In rejecting the claims U.S. Patent Application Publication 2002/0173955 to Reich and U.S. Patent 5,625,748 to McDonough et al. (References A and B). The rejections are traversed below.

The Application

In an embodiment of the present invention, a training system is used to determine the accuracy of an observed output of a text generating system (such as, for example, an automatic speech recognition system). The training system uses training data based on data that is more reliable than the output of the text generation system to generate a statistical model and determine the accuracy of the output of the text generation system.

This statistical model is then used to process original output sequences of the text generation system to produce alternate output sequences that correct and supplement/replace incorrect transcription by the text generation system. For example, when an ASR system transcribes an original speech, the present invention can be used to process and correct errors based on confidence score of the original transcription using statistical models collected from observed outputs from training data processed by the ASR system.

U.S. Patent Application Publication 2002/0173955 to Reich

Reich describes a method for performing speech recognition in which the speech recognition can determine a high likelihood exists that a recognition result does not accurately reflect received user speech. The determination is made using a confidence score generated by the speech recognition system. Specifically, in cases where the confidence score is below a predetermined threshold, one or more potential word candidates, each being a potential accurate recognition result corresponding to the received user speech, can be identified. The speech recognition system then queries the user as to which of the potential word candidates is an accurate recognition result for the received user speech.

Rejection under 35 U.S.C. § 102(e)

On pages 2-5 of the October 5, 2008 Office Action, claims 1-14, 26-46, 58-72 and 79-86 were rejected under 35 U.S.C. § 102(e) as anticipated by Reich. However, Reich does not teach "processing outputs of an automatic system for probabilistic detection of events" (claim 1,

lines 1-2). The speech recognition system in Reich processes speech itself and (and not the outputs of the speech recognition system).

Second, Reich does not teach "collecting statistics related to observed outputs of the automatic system" (claim 1, line 3). The speech recognition system in Reich takes a digitized speech signal, transforms the signal into a useful set of data by sampling the signal, modeling and classifying the just analyzed speech, and searching for the most likely words corresponding to the speech signal. The search occurs with the help of acoustic models, lexical models and language models (see paragraph 25 of Reich). Confidence scores are used as part of the recognition process of the system described in Reich. However, Reich does not describe collecting statistics relating to an observed output of the speech recognition system and "using the statistics to process an original output sequence of the" (claim 1, lines 4-5) speech recognition system.

Furthermore, as discussed above, Reich describes using a speech recognition system to determine the confidence level of user speech, and if the confidence level is below a predetermined threshold, one or more potential word candidates are presented to the user for selection. On the other hand, claim 1 recites "using the statistics [collected as discussed above] to process an original output sequence of the automatic system and produce an alternate output sequence" (claim 1, lines 4-5). Even if the "alternate output sequence" is produced by determining confidence levels from the output of a speech process system, this would not be the same as what is taught by Reich.

For the above reasons, it is submitted that claim 1, as well as claims 2-14 and 26-32 which depend therefrom, patentably distinguish over Reich.

Claim 33 is directed to a computer readable medium that stores instructions for controlling at least one computer system to perform a method of "processing outputs of an automatic system for probabilistic detection of events" (claim 33, lines 2-3) that includes operations worded the same as in claim 1. Therefore, it is submitted that claim 33, as well as claims 34-46 and 58-64 which depend therefrom, patentably distinguish over Reich.

Claim 65 is directed to an apparatus for "processing outputs of an automatic system for probabilistic detection of events" (claim 65, lines 1-2) that includes means for performing the operations recited in claims 1 and 33. Therefore, it is submitted that claim 65, as well as claims 66-72 which depend therefrom, patentably distinguish over Reich.

Claim 79 is directed to a system for "processing outputs of an automatic system for probabilistic detection of events" (claim 79, lines 1-2) that includes "an interface to receive

observed outputs from the automatic system" (claim 79, line 3) and "at least one processor programmed to collect statistics related to the observed outputs of the automatic system and to use the statistics to produce an alternate output sequence" (claim 79, lines 4-6). Therefore, it is submitted that claim 79, as well as claims 80-86 which depend therefrom, patentably distinguish over Reich for reasons similar to those discussed above with respect to claim 1.

Rejection under 35 U.S.C. § 103(a)

On pages 5-6 of the October 5, 2008 Office Action, claims 15-25, 47-57, 73-78 and 87-92 were rejected under 35 U.S.C. § 103(e) as anticipated by Reich in view of McDonough et al. All that was cited in McDonough et al. was "topic discrimination using posterior probability scores or confidence scores" (Office Action, page 6, lines 7-8) and it was asserted that a person of ordinary skill in the art would find it obvious from column 4, lines 15-29 of McDonough et al. to modify Reich "to improve the performance of the recognizer by making direct use of the confidence scores" (Office Action, page 6, lines 13-14).

It is submitted that what was cited in McDonough et al. would not make it obvious to one of ordinary skill in the art to modify Reich to "process... outputs of an automatic system for probabilistic detection of events" or using statistics "related to observed outputs of the automatic system .. to process an original output sequence of the automatic system and produce an alternate output sequence" as recited in claims 1, 33, 65 and 79, as discussed above. Since claims 15-25, 47-57, 73-78 and 87-92 depend from claims 1, 33, 65 and 79, it is submitted that claims 1-92 patentably distinguish over Reich in view of McDonough et al. for at least the reasons discussed above with respect to claims 1, 33, 65 and 79.

Summary

It is submitted that the references cited by the Examiner do not teach or suggest the features of the present claimed invention. Thus, it is submitted that claims 1-92 are in a condition suitable for allowance. Reconsideration of the claims and an early Notice of Allowance are earnestly solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

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If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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